California Wildlife Habitat Relationships System

California Department of Fish and Wildlife California Interagency Wildlife Task Group

BIG FREE-TAILED BAT

Nyctinomops macrotis

Family: MOLOSSIDAE Order: CHIROPTERA Class: MAMMALIA

M041

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Updated by: CWHR Program Staff, March 2002

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The big free-tailed bat is rare in California. Records of the species are from urban areas of San Diego Co., and vagrants found in fall and winter. A probable vagrant was collected in Alameda Co., but this record is suspect. Big free-tailed bats in other areas prefer rugged, rocky terrain. Found to 2500 m (8000 ft) in New Mexico, southern Arizona, and Texas. Probably a yearlong resident.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Feeds principally on large moths. Takes a variety of other flying insects as well. Often caught foraging over water sources.

Cover: Roosts in buildings, caves, and occasionally in holes in trees (Parish and Jones 1999). Also roosts in crevices in high cliffs or rock outcrops.

Reproduction: Probably does not breed in California. In other areas, small nursery colonies are formed in rocky crevices in high cliffs.

Water: No data found.

Pattern: Prefers rugged, rocky canyons.

SPECIES LIFE HISTORY

Activity Patterns: Nocturnal. Emerges late in the evening.

Seasonal Movements/Migration: Probably a yearlong resident. Many individuals wander widely in autumn, resulting in records far out of the normal range.

Home Range: No data found.

Territory: May be found in small groups.

Reproduction: Young are born in June and July; births peak in late June. A single young is born annually. The young are capable of flight in August to mid-September.

Niche: A moth strategist and rapid flier.

Comments: Rare in California. A California Species of Special Concern (Williams 1986).

REFERENCES

- Barbour, R. W., and W. H. Davis. 1969. Bats of America. Univ. of Kentucky Press, Lexington. 286pp.
- Borell, A. E. 1939. A colony of rare free-tailed bats. J. Mammal. 20:65-68.
- Constantine, D. G. 1961. Spotted bat and big free-tailed bat in northern New Mexico. Southwest. Nat. 6:92-97.
- Easterla, D. A. 1973. Ecology of the 18 species of Chiroptera at Big Bend National Park, Texas. Northwest Mo. State Univ. Studies 34:1-165.
- Easterla, D. A., and J. O. Whitaker, Jr. 1972. Food habits of some bats from Big Bend National Park, Texas. J. Mammal. 53:997-890.
- Findley, J. S., A. H. Harris, D. E. Wilson, and C. Jones. 1975. Mammals of New Mexico. Univ. New Mexico Press. Albuquerque. 360pp.
- Hall, E. R. 1946. Mammals of Nevada. Univ. California Press, Berkeley. 710pp.
- Huey, L. M. 1932. The large free-tailed bat in San Diego, California. J. Mammal. 13:160.
- Huey, L. M. 1954. Second record of Tadarida molossa from San Deigo, Calif. J. Mammal. 35:435-436.
- Parish, D. A. and C. Jones. 1999. Big free-tailed bat: Nyctinomops macrotis. Pages 130-131 in Wilson, D. E. and S. Ruff, editors. The Smithsonian book of North American mammals. Smithsonian Institute Press, Washington and London. 750pp.
- Ross, A. 1967. Ecological aspects of the food habits of insectivorous bats. Proc. West. Found. Vertebr. Zool. 1:205-264.
- Williams, D. F. 1986. Mammalian species of special concern in California. Calif. Dept. Fish and Game, Sacramento. Admin. Rep. 86-1. 112pp.

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Life history accounts for species in the California Wildlife Habitat Relationships (CWHR) System were originally published in: Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updates are noted in accounts that have been added or edited since original publication.